Symbol	Typ	Titel
G	**Sektion**	**PHYSICS**
G02	**Klasse**	**OPTICS (making optical elements or apparatus B24B , B29D 11/00 , C03 , or other appropriate subclasses or classes; materials per se, see the relevant places, e.g. C03B , C03C)**
G02F	**Unterklasse**	**DEVICES OR ARRANGEMENTS, THE OPTICAL OPERATION OF WHICH IS MODIFIED BY CHANGING THE OPTICAL PROPERTIES OF THE MEDIUM OF THE DEVICES OR ARRANGEMENTS FOR THE CONTROL OF THE INTENSITY, COLOUR, PHASE, POLARISATION OR DIRECTION OF LIGHT, e.g. SWITCHING, GATING, MODULATING OR DEMODULATING; TECHNIQUES OR PROCEDURES FOR THE OPERATION THEREOF; FREQUENCY-CHANGING; NON-LINEAR OPTICS; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS (optical transfer means between sensing member and indicating or recording part in connection with measuring G01D 5/26; devices in which mathematical operations are carried out with optical elements G06E 3/00; electrical signal transmission systems using optical means to convert the input signal G08C 19/36; information-recording by electric or magnetic means and reproducing by sensing optical properties G11B 11/00; static stores using optical elements G11C 13/04 ; transmission systems employing electromagnetic waves other than radio waves, e.g. light, infra-red radiation, H04B 10/00; optical multiplex systems H04J 14/00; pictorial communication, e.g. television H04N) [2, 4]**
G02F 1/00	**Hauptgruppe**	**Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source, e.g. switching, gating or modulating; Non-linear optics (thermometers using change of colour or translucency G01K 11/12 , using changes in fluorescence G01K 11/32; light guide devices G02B 6/00; optical devices or arrangements using movable or deformable elements for controlling light independent of the light source G02B 26/00; control of light in general G05D 25/00; visible signalling systems G08B 5/00; indicating arrangements for variable information by selection or combination of individual elements G09F 9/00; control arrangements or circuits for visual indicators other than cathode-ray tubes G09G 3/00; control of light sources H01S 3/10 , H05B 33/08 , H05B 35/00 to H05B 43/00) [2, 4]**
G02F 1/01	*1-Punkt Untergruppe*	*. for the control of the intensity, phase, polarisation or colour (G02F 1/29 , G02F 1/35 take precedence ; polarizing elements per se G02B 5/30 ; static storage per se G11C ; image tube screens acting as light valves by shutter operation H01J 29/12 ; such screen acting by discoloration H01J 29/14) [2, 7]*
G02F 1/015	2-Punkt Untergruppe	. . based on semiconductor elements with at least one potential jump barrier, e.g. PN, PIN junction (G02F 1/03 takes precedence) [3]
G02F 1/017	*3-Punkt Untergruppe*	*. . . Structures with periodic or quasi periodic potential variation, e.g. superlattices, quantum wells [7]*
G02F 1/025	*3-Punkt Untergruppe*	*. . . in an optical waveguide structure (G02F 1/017 takes precedence) [5, 7]*
G02F 1/03	*2-Punkt Untergruppe*	*. . based on ceramics or electro-optical crystals, e.g. exhibiting Pockels or Kerr effect (G02F 1/061 takes precedence) [2, 4, 7]*
G02F 1/035	3-Punkt Untergruppe	. . . in an optical waveguide structure [5]
G02F 1/05	3-Punkt Untergruppe	. . . with ferro-electric properties (G02F 1/035 , G02F 1/055 take precedence) [2, 5]
G02F 1/055	3-Punkt Untergruppe	. . . the active material being a ceramic (G02F 1/035 takes precedence) [4, 5]
G02F 1/061	*2-Punkt Untergruppe*	*. . based on electro-optical organic material (G02F 1/07 takes precedence) [7]*
G02F 1/065	*3-Punkt Untergruppe*	*. . . in an optical waveguide structure [7]*
G02F 1/07	2-Punkt Untergruppe	. . based on electro-optical liquids exhibiting Kerr effect [2]
G02F 1/09	2-Punkt Untergruppe	. . based on magneto-optical elements, e.g. exhibiting Faraday effect [2]
G02F 1/095	3-Punkt Untergruppe	. . . in an optical waveguide structure [5]

Symbol	Typ	Titel
G02F 1/11	2-Punkt Untergruppe	. . based on acousto-optical elements, e.g. using variable diffraction by sound or like mechanical waves (acousto-optical deflection G02F 1/33) [2]
G02F 1/125	3-Punkt Untergruppe	. . . in an optical waveguide structure [5]
G02F 1/13	2-Punkt Untergruppe	. . based on liquid crystals, e.g. single liquid crystal display cells (liquid crystal materials C09K 19/00) [2]
G02F 1/133	*3-Punkt Untergruppe*	*. . . Constructional arrangements ; Operation of liquid crystal cells ; Circuit arrangements (arrangements or circuits for control of liquid crystal elements in a matrix, not structurally associated with these elements G09G 3/36) [3, 7]*
G02F 1/1333	4-Punkt Untergruppe	. . . . Constructional arrangements (G02F 1/135 , G02F 1/136 take precedence) [5]
G02F 1/1334	*5-Punkt Untergruppe*	*. . . . . based on polymer-dispersed liquid crystals, e.g. microencapsulated liquid crystals [7]*
G02F 1/1335	5-Punkt Untergruppe	. . . . . Structural association of optical devices, e.g. polarisers, reflectors, with the cell [5]
G02F 1/13357	*6-Punkt Untergruppe*	*. . . . . Illuminating devices [7]*
G02F 1/13363	*6-Punkt Untergruppe*	*. . . . . Birefringent elements, e.g. for optical compensation [7]*
G02F 1/1337	5-Punkt Untergruppe	. . . . . Surface-induced orientation of the liquid crystal molecules, e.g. by alignment layers [5]
G02F 1/1339	5-Punkt Untergruppe	. . . . . Gaskets; Spacers; Sealing of the cell [5]
G02F 1/1341	5-Punkt Untergruppe	. . . . . Filling or closing of the cell [5]
G02F 1/1343	5-Punkt Untergruppe	. . . . . Electrodes [5]
G02F 1/1345	5-Punkt Untergruppe	. . . . . Conductors connecting electrodes to cell terminals [5]
G02F 1/1347	5-Punkt Untergruppe	. . . . . Arrangement of liquid crystal layers or cells in which the final condition of one light beam is achieved by the addition of the effects of two or more layers or cells [5]
G02F 1/135	4-Punkt Untergruppe	. . . . Liquid crystal cells structurally associated with a photoconducting or a ferro-electric layer, the properties of which can be optically or electrically varied [3]
G02F 1/136	4-Punkt Untergruppe	. . . . Liquid crystal cells structurally associated with a semi-conducting layer or substrate, e.g. cells forming part of an integrated circuit (G02F 1/135 takes precedence) [5]
G02F 1/1362	*5-Punkt Untergruppe*	*. . . . . Active matrix addressed cells [7]*
G02F 1/1365	*6-Punkt Untergruppe*	*. . . . . in which the switching element is a two-electrode device [7]*
G02F 1/1368	*6-Punkt Untergruppe*	*. . . . . in which the switching element is a three-electrode device [7]*
G02F 1/137	3-Punkt Untergruppe	. . . characterised by a particular electro- or magneto-optical effect, e.g. field-induced phase transition, orientation effect, guest-host interaction, dynamic scattering [3]
G02F 1/139	4-Punkt Untergruppe	. . . . based on orientation effects in which the liquid crystal remains transparent [6]
G02F 1/141	5-Punkt Untergruppe	. . . . . using ferroelectric liquid crystals [6]
G02F 1/15	2-Punkt Untergruppe	. . based on electrochromic elements [5]
G02F 1/153	3-Punkt Untergruppe	. . . Constructional arrangements [5]
G02F 1/155	4-Punkt Untergruppe	. . . . Electrodes [5]
G02F 1/157	4-Punkt Untergruppe	. . . . Structural association of optical devices, e.g. reflectors or illuminating devices, with the cell [5]
G02F 1/161	4-Punkt Untergruppe	. . . . Gaskets; Spacers; Sealing of the cell; Filling or closing of the cell [5]

Symbol	Typ	Titel
G02F 1/163	3-Punkt Untergruppe	. . . Operation of electrochromic cells; Circuit arrangements [5]
G02F 1/167	2-Punkt Untergruppe	. . based on electrophoresis [5]
G02F 1/17	2-Punkt Untergruppe	. . based on variable absorption elements (G02F 1/015 to G02F 1/167 take precedence) [2, 5]
G02F 1/19	2-Punkt Untergruppe	. . based on variable reflection or refraction elements (G02F 1/015 to G02F 1/167 take precedence) [2, 5]
G02F 1/21	2-Punkt Untergruppe	. . by interference [2]
G02F 1/225	3-Punkt Untergruppe	. . . in an optical waveguide structure [5]
G02F 1/23	2-Punkt Untergruppe	. . for the control of the colour (G02F 1/03 to G02F 1/21 take precedence) [2]
G02F 1/25	3-Punkt Untergruppe	. . . as to hue or predominant wavelength [2]
G02F 1/29	1-Punkt Untergruppe	. for the control of the position or the direction of light beams, i.e. deflection (static stores with electric or magnetic read-in and optical read-out G11C; lasers provided with means to change the location from which, or the direction in which, laser radiation is emitted H01S 3/101) [4]
G02F 1/295	2-Punkt Untergruppe	. . in an optical waveguide structure (G02F 1/313 , G02F 1/335 take precedence) [5]
G02F 1/31	2-Punkt Untergruppe	. . Digital deflection devices (G02F 1/33 takes precedence) [2]
G02F 1/313	3-Punkt Untergruppe	. . . in an optical waveguide structure [5]
G02F 1/315	3-Punkt Untergruppe	. . . based on the use of controlled total internal reflection [3]
G02F 1/33	2-Punkt Untergruppe	. . Acousto-optical deflection devices [2]
G02F 1/335	3-Punkt Untergruppe	. . . having an optical waveguide structure [5]
G02F 1/35	1-Punkt Untergruppe	. Non-linear optics (optical bistable devices G02F 3/02; lasers using stimulated Brillouin or Raman effect H01S 3/30) [2, 5]
G02F 1/355	*2-Punkt Untergruppe*	*. . characterised by the materials used [7]*
G02F 1/361	*3-Punkt Untergruppe*	*. . . Organic materials [7]*
G02F 1/365	*2-Punkt Untergruppe*	*. . in an optical waveguide structure (G02F 1/377 takes precedence) [7]*
G02F 1/37	2-Punkt Untergruppe	. . for second-harmonic generation [2]
G02F 1/377	*3-Punkt Untergruppe*	*. . . in an optical waveguide structure [7]*
G02F 1/383	*4-Punkt Untergruppe*	*. . . . of the optical fibre type [7]*
G02F 1/39	2-Punkt Untergruppe	. . for parametric generation or amplification of light, infra-red, or ultra-violet waves (electrical parametric amplifiers H03F 7/00) [2]
G02F 2/00	**Hauptgruppe**	**Demodulating light; Transferring the modulation of modulated light; Frequency-changing of light (G02F 1/35 takes precedence; photoelectric detecting or measuring devices G01J , H01J 40/00 , H01L 31/00; demodulating laser arrangements H01S 3/10; demodulation or transference of modulation of modulated electromagnetic waves in general H03D 9/00) [2]**
G02F 2/02	1-Punkt Untergruppe	. Frequency-changing of light, e.g. by quantum counters (luminescent materials C09K 11/00) [2]
G02F 3/00	**Hauptgruppe**	**Optical logic elements (electric-pulse generators using opto-electronic devices as active elements H03K 3/42; logic circuits using opto-electronic devices H03K 19/14); Optical bistable devices [5]**
G02F 3/02	1-Punkt Untergruppe	. Optical bistable devices [5]
G02F 7/00	**Hauptgruppe**	**Optical analogue/digital converters**